



### REMARKS/ARGUMENTS

Claims 2-5, 7-22 and 24-62 are pending in the application. No claim amendments are begin made at this time. Favorable reconsideration of the application is requested.

At the outset, applicants note with appreciation the Examiner's indication of allowable subject matter in claims 5, 21-22, 24-29 and 59.

Claims 2-4, 7-20, 30-35, 36-58 and 60-62 stand rejected as allegedly obvious over Snowwhite et al (U.S. Patent 6136880). Applicants respectfully request the withdrawal of this rejection for the following two reasons.

**First**, Snowwhite does not disclose or suggest the claimed compositions:

1. having at least two free radical photoinitiators **and** having the claimed specific absorption properties -- as required in independent claim 30 and its dependent claims 31-32, 34-52 and 56-58, including claim 56 that requires a RAU of at least 56%, or
2. having at least three free radical photoinitiators **and** having the claimed specific absorption properties -- as required in independent claim 33 and its dependent claims 2-4, 7-20, 53-55 and 60-62, including claim 13 that requires a RAU of at least 56%.

Although applicant acknowledges that Snowwhite generally teaches that several photoinitiators can be used, Snowwhite no where teaches or discloses the strategic use of multiple photoinitiators that have certain absorption properties, i.e.,

1. having an overall absorption spectrum in methanol which is the sum of the absorption spectra of each individual photoinitiator wherein said overall absorption spectrum has a minimum value of a molar extinction coefficient in a

range between 280 nm and 320 nm of at least about  $525 \text{ l mol}^{-1} \text{ cm}^{-1}$ , or the overall absorption spectrum of the photoinitiators in methanol is characterized by an average value of at least about  $980 \text{ l mol}^{-1} \text{ cm}^{-1}$  in a range between 280 nm and 320 nm, or

2. wherein (i) at least one of the photoinitiators has an absorption spectrum in acetonitrile having a difference between two absorption maxima in the range between 240 and 360 nm of at least about 15 nm, and wherein (ii) considering at least two of the photoinitiators (1 and 2), the difference between the absorption maximum of the absorption spectrum in acetonitrile of photoinitiator 1 and the absorption maximum of the absorption spectrum in acetonitrile of photoinitiator in the range between 280 and 320 nm is at least about 5 nm.

**Second**, Snowwhite nowhere teaches or suggests the superior and unexpected results stemming from the strategic and synergistic use of the claimed multiple photoinitiators having specific absorption properties. In this regard, the Declaration evidence provided to date effectively shows a 300% beneficial increase in cure speed. See Appendix A to the Declaration of Mr. Bishop submitted with the Amendment dated April 13, 2005, and compare the % RAUs of 18.9 versus 67.2 and 24.8 versus 79.6. This 300% increase is a complete surprise and further confirms the non-obviousness of the claimed invention.

It is also noteworthy that the Declaration from Mr. Bishop contains exactly what the Examiner thoughtfully requested in the first full sentence on page 3 of the Office Action of December 13, 2005. Thus, applicants submit that the Declaration is not defective because it satisfies and confirms what the Examiner was looking for. Stated another way, applicants' Declaration provided exactly what the Examiner requested – and this evidence shows, without

any doubt, the unexpected and vastly superior results of the claimed invention. This evidence rebuts any alleged obviousness gleaned from the cited reference.

Significantly, the declarant, Mr. Bishop, is a named inventor of the Snowwhite reference, and he is well versed in its teachings that date back to 1998. The applicants, via Mr. Bishop, provide the following information in response to the Examiner's inquiries about the Declaration and the invention. The applicants hereby confirm that the method of curing and testing were the same for all examples in the Declaration. Also, the Declaration's examples are commensurate in scope with the claims, e.g., claim 16. Further, other combinations of the claimed photoinitiators provide the same superior properties.

Finally, the following information addresses the cure speed inquiries of the Examiner and further confirm the unexpected cure speed increase, including reference to Figure 2 of the application that demonstrates this point. In the current application, a test method is used wherein % RAU is monitored by FTIR while being exposed to UV light. A plot of the function of % RAU vs. time can be seen in Figure 2 of the application. In Figure 2, it can be seen that % RAU initially rises steeply and then levels off over time. One can conveniently quantify a coating's cure speed by referring to its % RAU on the steep part of the curve -- in this case, at 4.4 mJ/cm<sup>2</sup> (which occurs at 0.2 seconds), and as disclosed in Appendix A in the Declaration. A "faster" coating will have a higher % RAU at this low UV dose than a "slower" coating.

For at least the foregoing reasons, applicants request the withdrawal of the rejection based on Snowwhite (U.S. Patent 6136880).

Claims 2-4, 7-20, 30-35, 36-58 and 60-62 stand rejected as allegedly obvious over Snowwhite et al (U.S. Patent 6359025). Applicants note that this cited reference is a

continuation of the Snowwhite reference discussed above. For the same reasons set forth above, applicants respectfully request the withdrawal of this rejection.

Claims 2-4, 7-20, 30-35, 36-58 and 60-62 stand rejected as allegedly obvious over Yamazaki et al (U.S. Patent 6057034). This rejection is the same or similar to the Snowwhite rejections. Significantly, however, Yamazaki teaches away from the claimed invention because the specific examples in Yamazaki (i.e., the preferred compositions) teach the use of just one photoinitiator. For all of the foregoing reasons, applicants respectfully request the withdrawal of this rejection.

Claims 2-4, 7-20, 30-35, 36-58 and 60-62 stand rejected as allegedly obvious over Moschovis et al (U.S. Patent 4782129). Again, this rejection is the same or similar to the other rejections. And, like Yamazaki, Moschovis teaches away from the claimed invention because all of the specific examples in Moschovis (i.e., the preferred compositions) teach the use of just one photoinitiator package that is outside the range of the claimed invention. For all of the foregoing reasons, applicants respectfully request the withdrawal of this rejection.

In view of the foregoing facts and information, applicants submit that this application is in condition for allowance. A notice to that effect is earnestly solicited.

If the Examiner has any questions concerning this case, then the undersigned may be contacted at 703-816-4009.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By: \_\_\_\_\_

A handwritten signature in dark ink, appearing to read 'D. Byers', is written over a horizontal line.

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